REMARKS

Claims 1-6, 8-9, 11-15, and 17-27 are pending in the present application. By this amendment, claims 1-4, 8-9, 11, 14, 17, and 19-22 are amended, and claims 7, 10, and 16 are canceled without prejudice or disclaimer. Further, claims 26-27 are added. Applicant respectfully requests reconsideration of the present claims in view of the above amendments and following remarks.

I. Specification Objections

The Office Action notes that the title of the invention is allegedly not descriptive and requests that a new title indicative of the invention be provided. Accordingly, Applicant amends the title, as noted above, and respectfully requests that objection to the title be withdrawn.

The disclosure is objected to because the serial number regarding a patent application incorporated by reference in the specification of the current application is not provided. Accordingly, Applicant amends the specification, as noted above, to include the corresponding serial number and respectfully requests that objection to the specification be withdrawn.

II. Claim Rejections Under 35 U.S.C. §102

Claims 1-25 are rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent No. 7,058,861 to Adams (hereinafter "Adams"). As noted above, claims 7, 10, and 16 are canceled without prejudice or disclaimer, rendering this rejection moot with regard to those claims. This rejection is respectfully traversed.

A. Claims 1-6, 8-9, 11-13, and 20-21 are allowable.

As amended, claim 1 recites that a method for providing automated diagnosis of problems for a computer network comprises associating each of the identified configuration changes with a rank based on a likelihood that each of the identified configuration changes caused the problem, the rank determined based on a proximity of each of the configuration changes to the problem, a difference in time between an occurrence of each of the configuration changes and an occurrence of the problem, and a security sensitivity associated with the components of the computer network.

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Adams does not teach, suggest, or describe a method for providing automated diagnosis of problems for a computer network including the features recited in claim 1. On the contrary, Adams describes a method for auditing and reconciling an actual network with a network model where the network model is intended to include a list of all elements in the actual network and to record the ways in which the elements are interconnected. In order to discover possible misalignments between the network model and the actual network, Adams describes auditing the actual network to collect information about the actual status and configuration of the network elements at a particular moment in time, comparing the actual information obtained through auditing the actual network with the network model, documenting the discrepancies between the actual network and the network model, and reconciling the documented discrepancies between the actual network and the network model.

Adams describes a number of ways of auditing the actual network to collect information about the actual status and configuration of the network elements at a particular moment in time. For example, Adams describes that some elements of the actual network send change messages via the same channels used to report equipment problems, and an audit system can capture these change messages to identify resources that are attached to the actual network at a particular point in time and can identify specific changes in resource configuration. Adams describes that the identified resources can be checked against the network model to determine if any discrepancies exist between the resources recorded in the network model and the resources determined via the auditing process. In another example, Adams describes that certain elements of the actual network contain internal logs that document changes to an element and its internal components, and an audit system can capture and retain these logs and compare the actual resource information against the network model to determine if any discrepancies exist between the actual network and the network model.

Once discrepancies between the actual network and the network model are identified using one or more of the auditing processes, Adams describes analyzing the likely causes of the discrepancies between the network model and the actual network through a reconciliation process. One of the reconciliation processes described by Adams includes comparing the sequence of actual changes to an element of the actual network with the sequence of changes recorded in the network model to determine the point where the actual network and the network model diverge.

The auditing, comparing, and reconciling methods described by Adams are not analogous to the method recited by claim 1 because Adams fails to teach, suggest, or describe associating each identified configuration change with a rank based on a likelihood that each of the identified configuration changes caused the problem, the rank determined based on a proximity of each of the configuration changes to the problem, a difference in time between an occurrence of each of the configuration changes and an occurrence of the problem, and a security sensitivity associated with the components of the computer network. Instead, Adams describes analyzing the likely causes of the discrepancies between the network model and the actual network, without teaching, suggesting, or describing associating the likely causes with a rank based on a proximity of the likely causes to the problem, a difference in time between an occurrence of each of the likely causes and an occurrence of the problem, and a security sensitivity associated with components of the actual network associated with the likely causes.

For at least the reasons given above, claim 1 is allowable over Adams. Since claims 2-6 and 20 depend from claim 1 and recite additional features, Applicant respectfully submits that claims 2-6 and 20 are also allowable over Adams. Withdrawal of this rejection is respectfully requested.

Claims 2-6 and 20 are also allowable for further reasons. In particular, claim 3 recites determining a distance between each of the configuration changes and the problem; comparing the determined distance associated with each of the verified configuration changes with a configurable distance threshold; and discarding any of the verified configuration changes associated with the determined distance that violates the configurable distance threshold. The Office Action refers to column 10, lines 51-56 of Adams for support that Adams allegedly anticipates the recitations of claim 3. However, column 10, lines 51-56 of Adams states that if an aggregate audit state is at or above the threshold, then the network model is considered to be in sufficient agreement with the actual network, and if the aggregate audit state is below the threshold, then further reconciliation between the network model and the actual model is needed. Adams describes that the aggregate audit state can be calculated by dividing the confirmed resources of the actual network by the sum of the unconfirmed, confirmed, and suspect resources of the actual network; dividing the sum of the confirmed and unconfirmed resources of the actual network by the sum of the unconfirmed, confirmed, and suspect resources of the actual network; or dividing the unconfirmed resources by the sum of the unconfirmed, confirmed, and suspect

resources of the actual network. Therefore, the aggregate audit state of Adams is not analogous to the determined distance between each of the configuration changes and the problem as recited by claim 3.

In addition, claim 4 recites recording the configuration changes made to the computer network at a first level of detail, and in response to receiving the input regarding the problem, recording the configuration changes associated with the problem at a second level of detail, wherein the second level of detail is greater than the first level of detail. Adams does not teach, suggest, or describe the recitations of claim 4. In contrast, Adams describes that the frequency of selected audit methods may be adjusted based on the volatility observed for a resource or element of the actual network, without teaching or suggesting auditing the actual network at a greater level of detail in response to receiving input regarding a problems. For at least these additional reasons, claims 2-6 and 20 are also allowable over Adams.

As amended, claim 8 recites features similar to the features recited by claim 1. Thus, claim 8 is allowable over Adams for at least the reasons given above with regard to claim 1. Since claims 9, 11-13, and 21 depend from claim 8 and recite additional features, Applicant respectfully submits that claims 9, 11-13, and 21 are also allowable over Adams. Withdrawal of this rejection is respectfully requested.

B. Claims 14-15, 17-19, and 22-25 are allowable.

As amended, claim 14 recites that a system for providing automated diagnosis of problems for a computer network comprises means operative to associate each of the identified configuration changes with a rank based on a likelihood that each of the identified configuration changes caused the problem, the rank determined based on a proximity of each of the configuration changes to the problem, a difference in time between an occurrence of each of the configuration changes and an occurrence of the problem, and a security sensitivity associated with the components of the computer network.

Adams does not teach, suggest, or describe a system for providing automated diagnosis of problems for a computer network including the features recited by claim 14. On the contrary, Adams describes a system for auditing and reconciling an actual network with a network model where the network model is intended to include a list of all elements in the actual network and to record the ways in which the elements are interconnected. In order to discover possible

misalignments between the network model and the actual network, Adams describes that the audit system audits the actual network to collect information about the actual status and configuration of the network elements at a particular moment in time, compares the actual information obtained through auditing the actual network with the network model, documents the discrepancies between the actual network and the network model, and reconciles the documented discrepancies between the actual network and the network model.

Adams describes a number of ways of auditing the actual network to collect information about the actual status and configuration of the network elements at a particular moment in time. For example, Adams describes that some elements of the actual network send change messages via the same channels used to report equipment problems, and the audit system can capture these change messages to identify resources that are attached to the actual network at a particular point in time and can identify specific changes in resource configuration. Adams describes that the identified resources can be checked against the network model to determine if any discrepancies exist between the resources recorded in the network model and the resources determined via the auditing process. In another example, Adams describes that certain elements of the actual network contain internal logs that document changes to an element and its internal components, and the audit system can capture and retain these logs and compare the actual resource information against the network model to determine if any discrepancies exist between the actual network and the network model.

Once discrepancies between the actual network and the network model are identified using one or more of the auditing processes, Adams describes that the audit system can analyze the likely causes of the discrepancies between the network model and the actual network through a reconciliation process. One of the reconciliation processes described by Adams includes comparing the sequence of actual changes to an element of the actual network with the sequence of changes recorded in the network model to determine the point where the actual network and the network model diverge.

The audit system described by Adams is not analogous to the system recited by claim 14 because Adams fails to teach, suggest, or describe that the audit system associates each identified configuration change with a rank based on a likelihood that each of the identified configuration changes caused the problem, the rank determined based on a proximity of each of the configuration changes to the problem, a difference in time between an occurrence of each of the

configuration changes and an occurrence of the problem, and a security sensitivity associated with the components of the computer network. Instead, Adams describes that the audit system analyzes the likely causes of the discrepancies between the network model and the actual network, without teaching, suggesting, or describing that the audit system associates the likely causes with a rank based on a proximity of the likely causes to the problem, a difference in time between an occurrence of each of the likely causes and an occurrence of the problem, and a security sensitivity associated with components of the actual network associated with the likely causes.

For at least the reasons given above, claim 14 is allowable over Adams. Since claims 15, 17-19, and 22-25 depend from claim 14 and recite additional features, Applicant respectfully submits that claims 15, 17-19, and 22-25 are also allowable over Adams. Withdrawal of this rejection is respectfully requested.

Claims 15, 17-19, and 22-25 are allowable over Adams for additional reasons. In particular, claim 17 recites that the means operative to verify that the ranked configuration changes are related to the problem include a database structure configured as hierarchical database pages, each database page having a page index, data section and selector section, wherein the data section is further configured to include reliability or vulnerability information associated with the components of the computer network associated with the problem to verify that the ranked configuration changes are related to the problem, and wherein the selector section is further configured to include links to other related database pages of the database structure.

The Office Action refers to column 10, lines 21-24 and column 9, lines 1-10 of Adams for support that Adams allegedly anticipates the recitations of claim 17. However, column 10, lines 21-24 of Adams states that several reconciliation analysis methods can be used and provides an example that the resources that a disputed resource is linked to upstream and downstream or at higher or lower service levels can be investigated. Applicant respectfully asserts that investigating network resources that are linked upstream and downstream of a disputed resource link or at higher or lower service levels than a disputed resource link completely fails to anticipate the database structure configured as hierarchical pages as recited by claim 17. Column 9, lines 1-10 of Adams states that a resource's inventory and topology information and its audit state can be stored in a data storage medium such as a database. This is not analogous to the system recited by claim 17 because Adams is completely silent with regards

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to the configuration of the database and thus fails to teach, suggest, or describe that the database is configured as hierarchical database pages, each database page having a page index, data section and selector section, wherein the data section is further configured to include reliability or vulnerability information associated with the components of the computer network associated with the problem to verify that the ranked configuration changes are related to the problem, and wherein the selector section is further configured to include links to other related database pages of the database structure. For at least these additional reasons, claims 15, 17-19, and 22-25 are allowable over Adams.

III. New Claims 26-27

New claims 26-27 recite additional features described in the current application. Support for new claims 26-27 can be found at least at page 16, line 8 through page 18, line 23 and page 11, lines 19-28 of the specification.

Since claim 26 depends from claim 1 and recites additional features, Applicant respectfully asserts that claim 26 is allowable over Adams. Claim 26 is also allowable over Adams because Adams fails to teach, suggest, or describe cycling through a database structure configured as hierarchical database pages, each of the database pages having a page index, data section and selector section, wherein the data section includes reliability information associated with the components of the computer network associated with the problem to verify that the ranked configuration changes are related to the problem, and wherein the selector section includes links to other related database pages of the database structure for cycling through the database structure.

Since claim 27 depends from claim 14 and recites additional features, Applicant respectfully asserts that claim 27 is allowable over Adams. Claim 27 is also allowable over Adams because Adams fails to teach, suggest, or describe that the audit system includes means operative to record the configuration changes made to the computer network at a first level of detail, and means operative to record the configuration changes associated with the problem at a second level of detail in response to receiving the input regarding the problem, wherein the second level of detail is greater than the first level of detail.

CONCLUSION

For at least these reasons, Applicant asserts that the pending claims 1-6, 8-9, 11-15, and 17-27 are in condition for allowance. Applicant further asserts that this response addresses each and every point of the final Office Action and respectfully requests that the Examiner pass this application with claims 1-6, 8-9, 11-15, and 17-27 to allowance. Should the Examiner have any questions, please contact Applicant's attorney at 404.815.1900.

Respectfully submitted,

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